3R170

2010 AGWMR

03/02/2011

3R170

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BUILDING A BETTER WORLD

March 2, 2011

RECEIVED OCD
2011 MAR -4 P 12:24

Mr. Glenn von Gonten
New Mexico Oil Conservation Division (NMOCD)
1220 South St., Francis Drive
Santa Fe, New Mexico 87505

RE: El Paso Tennessee Pipeline Company Pit Groundwater Remediation Sites 2010 Annual Reports

Dear Mr. Von Gonten:

MWH Americas, Inc., on behalf of El Paso Tennessee Pipeline Company (EPTPC), is submitting the enclosed 2010 Annual Reports for each of EPTPC's 21 remaining San Juan River Basin pit groundwater remediation sites. The reports present the 2010 sampling and product recovery data and include recommendations for 2011 activities at these sites.

The 2010 Annual Reports are divided into three volumes based on location type. The volumes are as follows:

Volume	Location Type
1	Federal Land
2	Non-Federal Land (Excl. Navajo Nation)
3	Navajo Nation

If you have any questions concerning the enclosed reports, please call either Ian Yanagisawa of EPTPC (713-420-7361) or myself (303-291-2276).

Sincerely,

Jed Smith
Project Manager

encl.

cc: Bill Freeman – NNEPA, Shiprock, NM (Volume 3 Only)
Bill Liese – BLM, Farmington, NM (Volume 1 Only)
Brandon Powell – NMOCD, Aztec, NM (Volumes 1, 2, and 3)
Ian Yanagisawa – EPTPC (Volumes 1, 2, and 3 - Electronic)

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El Paso Tennessee
Pipeline Company

San Juan Basin Pit Program
Groundwater Sites Project

Final 2010 Annual Report
Federal Sites (Volume 1)

March 2011

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1801 California Street, Suite 2900
Denver, Colorado 80202

2010 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I

EL PASO TENNESSEE PIPELINE COMPANY

TABLE OF CONTENTS

* The Hamner #9 site was submitted for closure in January 2009 and is pending approval from NMOCD. There were no monitoring activities for this site in 2010.

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LIST OF ACRONYMS

AMSL	above mean sea level
B	benzene
btoc	below top of casing
E	ethylbenzene
EPTPC	El Paso Tennessee Pipeline Company
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitor well
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
µg/L	micrograms per liter
X	total xylenes

LEGEND

- Sites on Federal Land
- Sites on Navajo Nation Land
- Sites on State/Fee "Non-Federal" Lands

*Closure Request Pending with the NMOCD.

N

0 2 4 6 8 Miles

MWH

elpaso

PROJECT: SAN JUAN RIVER BASIN

TITLE: Site Locations, February 2011

FIGURE: 1

El Paso Tennessee
Pipeline Company

San Juan Basin Pit Program
Groundwater Sites Project

Final 2010 Annual Report
Federal Sites (Volume 1)

March 2011

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1801 California Street, Suite 2900
Denver, Colorado 80202

2010 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I

EL PASO TENNESSEE PIPELINE COMPANY

TABLE OF CONTENTS

METER or LINE ID	NMOCD CASE NO.	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
87640	3RP-155-0	Canada Mesa #2	24N	06W	24	I
89961	3RP-170-0	Fields A#7A	32N	11W	34	E
73220	3RP-068-0	Fogelson 4-1 Com. #14	29N	11W	4	P
89894	3RP-186-0	Hammond #41A	27N	08W	25	O
97213	3RP-190-0	Hamner #9	29N	09W	20	A
94715	3RP-196-0	James F. Bell #1E	30N	13W	10	P
89232	3RP-202-0	Johnston Fed #6A	31N	09W	35	F
LD072	3RP-204-0	K27 LD072	25N	06W	4	E
LD174	3RP-212-0	LAT L 40	28N	04W	13	H
LD151	3RP-213-0	Lat 0-21 Line Drip	30N	09W	12	O
94810	3RP-223-0	Miles Fed 1A	26N	07W	5	F
89620	3RP-235-0	Sandoval GC A #1A	30N	09W	35	C

* The Hamner #9 site was submitted for closure in January 2009 and is pending approval from NMOCD. There were no monitoring activities for this site in 2010.

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LIST OF ACRONYMS

AMSL	above mean sea level
B	benzene
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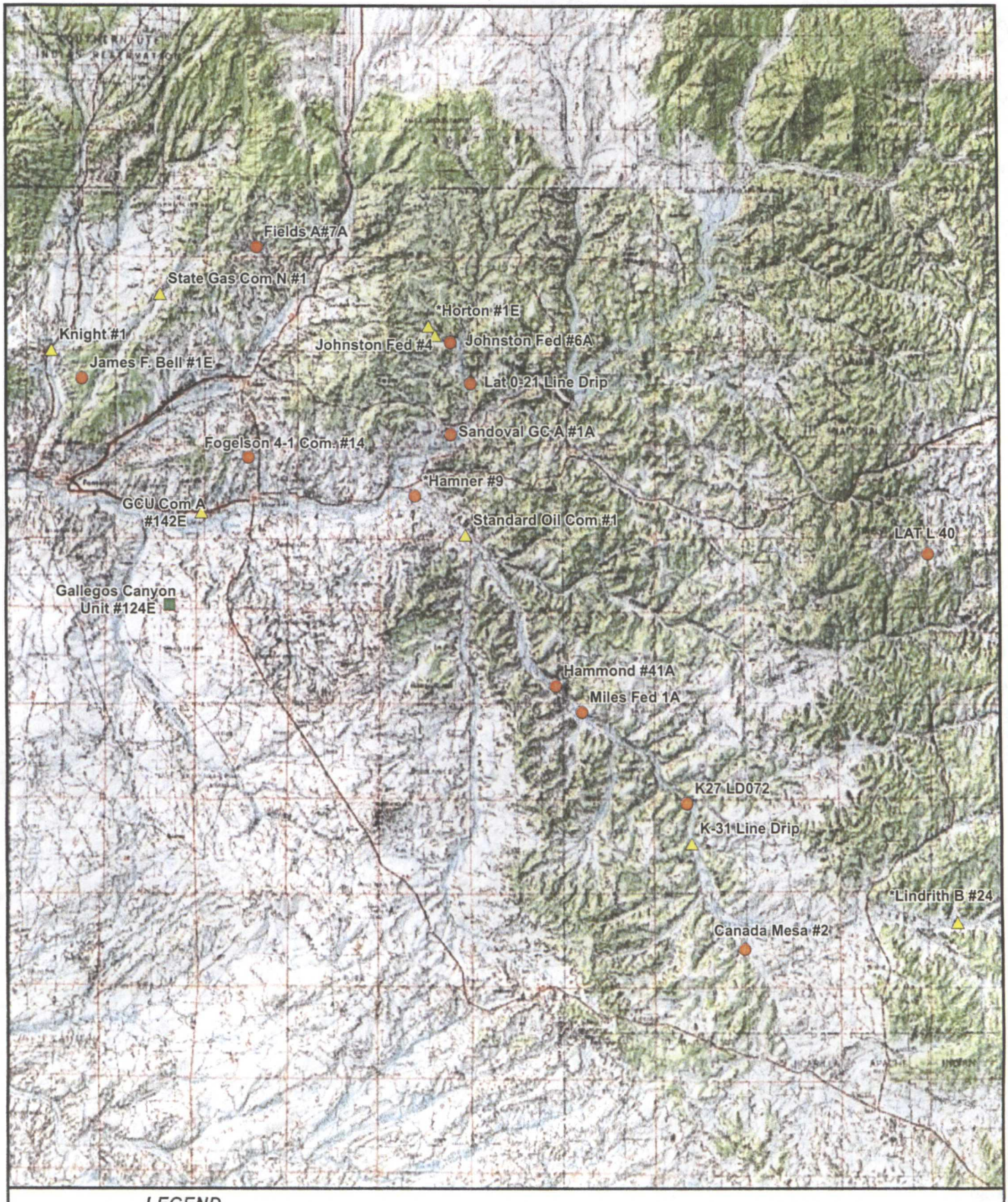
TOC	top of casing
NA	not applicable
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
µg/L	micrograms per liter
X	total xylenes



LEGEND

- Sites on Federal Land
- Sites on Navajo Nation Land
- Sites on State/Fee "Non-Federal" Lands

*Closure Request Pending with the NMOCD.

N

0 2 4 6 8 Miles

MWH

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PROJECT: SAN JUAN RIVER BASIN

TITLE: Site Locations, February 2011

FIGURE: 1

EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT

Fields A#7A
Meter Code: 89961

SITE DETAILS

Legal Description:	**Town:**	32n	**Range:**	11w	**Sec:**	34	**Unit:** E
NMOCD Haz Ranking:	40	**Land Type:**	Federal	**Operator:**	BP / Amoco Production Company		

PREVIOUS ACTIVITIES

Site Assessment:	8/94	**Excavation:**	9/94 (70cy)	**Soil Boring:**	7/95
Monitor Well:	7/95	**Geoprobe:**	NA	**Additional MWs:**	12/95
Downgradient MWs:	12/95	**Replace MW:**	NA	**Quarterly Initiated:**	NA
ORC Nutrient Injection:	NA	**Re-Excavation:**	NA	**PSH Removal Initiated:**	8/97
Annual Initiated:	4/97	**Quarterly Resumed:**	NA	**PSH Removal in 2010?**	No

SUMMARY OF 2010 ACTIVITIES

MW-1: Annual groundwater sampling (May) and semiannual water level monitoring (May and November) were performed during 2010.

MW-2: Semiannual water level monitoring (May and November) was performed during 2010.

MW-3: Semiannual water level monitoring (May and November) was performed during 2010.

MW-4: Semiannual water level monitoring (May and November) was performed during 2010.

Site-Wide Activities: No other activities were performed at this Site during 2010.

SITE MAP

A Site map (May) is attached as Figure 1.

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 2 through 5. Where applicable, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.8).

- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figures 2 and 4.
- The 2010 laboratory report is presented in Attachment 1 (included on CD).
- The 2010 field documentation is presented in Attachment 2 (included on CD).

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this Site during 2010.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this Site; however, the attached Site map presents the analytical and water level data collected during the annual sampling event.

RESULTS

- The groundwater flow direction at this Site is to the southwest, based on historic water level measurements. Only one well, MW-1, had static groundwater in 2010.
- BTEX concentrations in MW-1 have declined substantially since 1997, when free-product recovery was initiated. The May 2010 benzene concentration was 100 µg/L. All other BTEX constituents were below standards.
- MW-2, which was dry at the time of the May 2010 sampling event, was last sampled in 2008 and was clean at the time, consistent with the historical sample results for this well.
- MW-3 was also dry in May 2010. BTEX concentrations in this well have declined substantially since 1997, when free-product recovery was initiated at MW-1. However, the benzene concentration was 182 µg/L in April 2009, which was still above the NMWQCC benzene standard. All other BTEX constituents were below standards in 2009.
- MW-4 was also dry in May 2010. BTEX concentrations in MW-4 have attenuated from their historic highs in January 1997. The 2009 annual sample from MW-4 showed elevated benzene (695 µg/L) and total xylenes (745 µg/L) constituent concentrations, both below their 2008 levels.

EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT

Fields A#7A
Meter Code: 89961

CLOSURE CRITERIA

- This site is being managed per the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered During Pit Closure Activities" (El Paso Natural Gas Company / El Paso Field Services Company, 1995). This remediation plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso's program methods.

- In order to meet the closure requirements at this site, the following condition must be achieved: groundwater contaminant concentrations in the monitor wells must meet the NMWQCC standards for at least 4 consecutive quarters. Alternatively, concentrations must be reduced to below background levels; however, there are no established background concentrations for the remaining constituents of concern. Currently, MW-1, MW-3, and MW-4 require additional monitoring. The remaining applicable standards are:

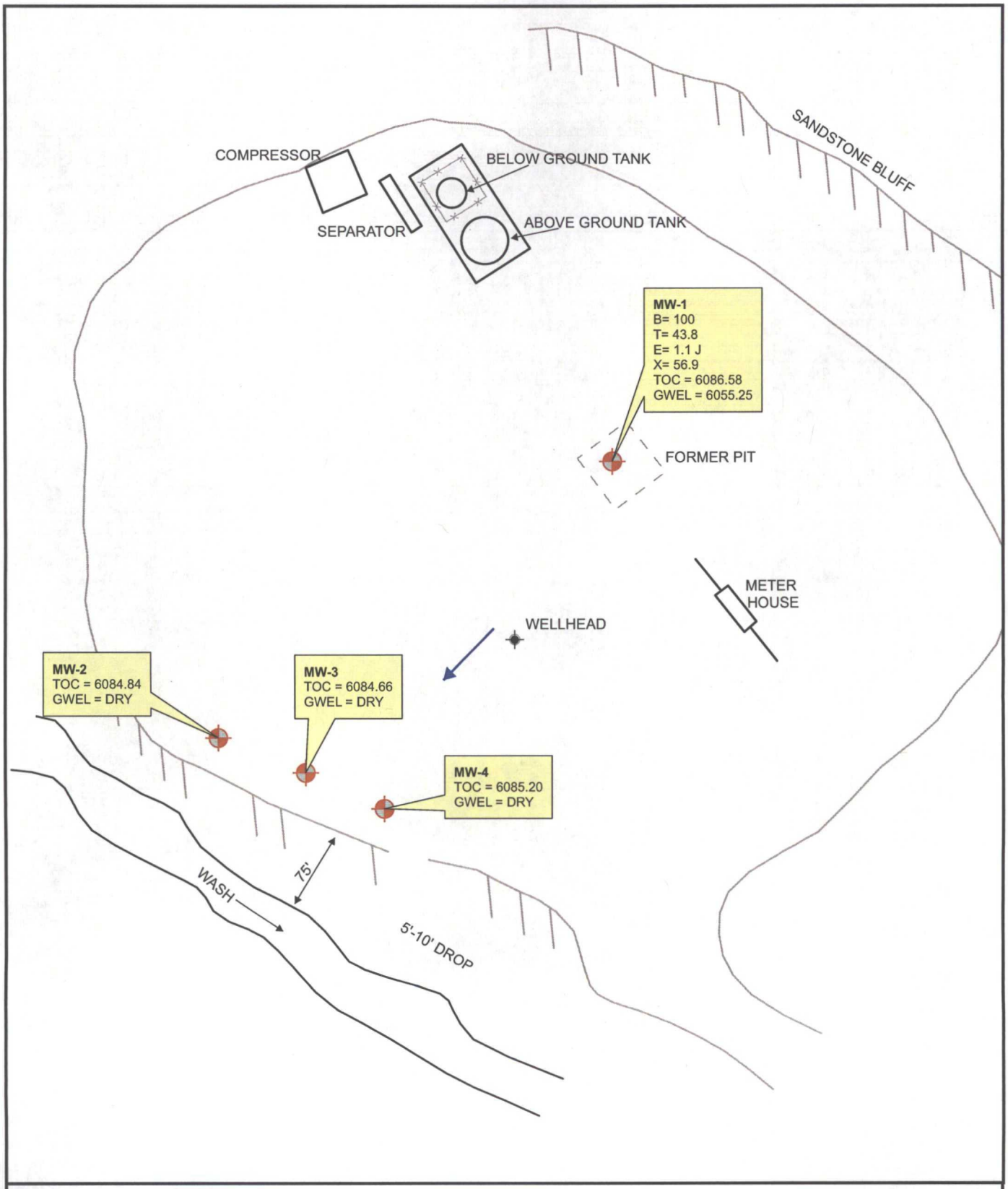
Constituent	NMWQCC GW Standard (µg/L)
Benzene	10
Toluene	750
Ethylbenzene	750
Total Xylenes	620

RECOMMENDATIONS

- MW-1 will be gauged semiannually and sampled annually (May) until BTEX concentrations approach the NMWQCC standards.

- EPTPC will attempt semiannual groundwater level measurements and annual groundwater sampling at MW-2, MW-3, and MW-4. If samples cannot be obtained during the May 2011 sampling event; EPTPC will re-attempt sampling during August or November 2011.

- Once concentrations meet the NMWQCC standards, the wells will be sampled quarterly until BTEX concentrations are below standards for four consecutive quarters, at which time this Site will be submitted for closure.



LEGEND

MW-4	Existing Monitoring / Observation Well
→	Historic Groundwater Flow Direction
ND	Not Detected; Reporting Limit Shown In Parenthesis
J	Result Flagged as Estimated

B	Benzene (ug/L)
T	Toluene (ug/L)
E	Ethylbenzene (ug/L)
X	Total Xylenes (ug/L)
TOC	Top of Casing (ft. AMSL)
GWEL	Groundwater Elevation (ft. AMSL)

N

0 5 10 20 30 40 Feet

MWH

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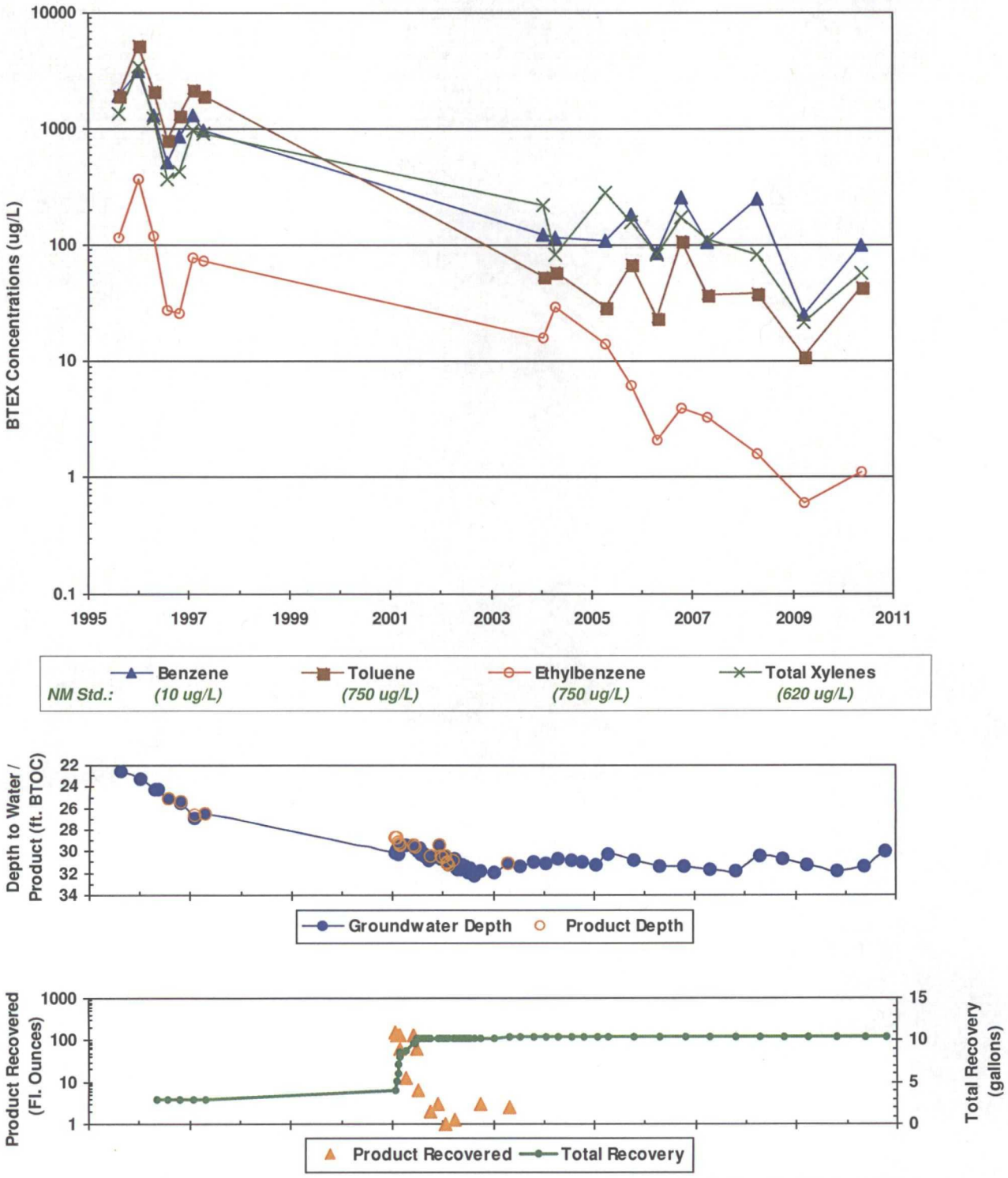
PROJECT: FIELDS A#7A

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - May 24, 2010

FIGURE: 1

FIGURE 2
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
FIELDS A#7A (METER #89961)
MW01



*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

FIGURE 3
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
FIELDS A#7A (METER #89961)
MW02

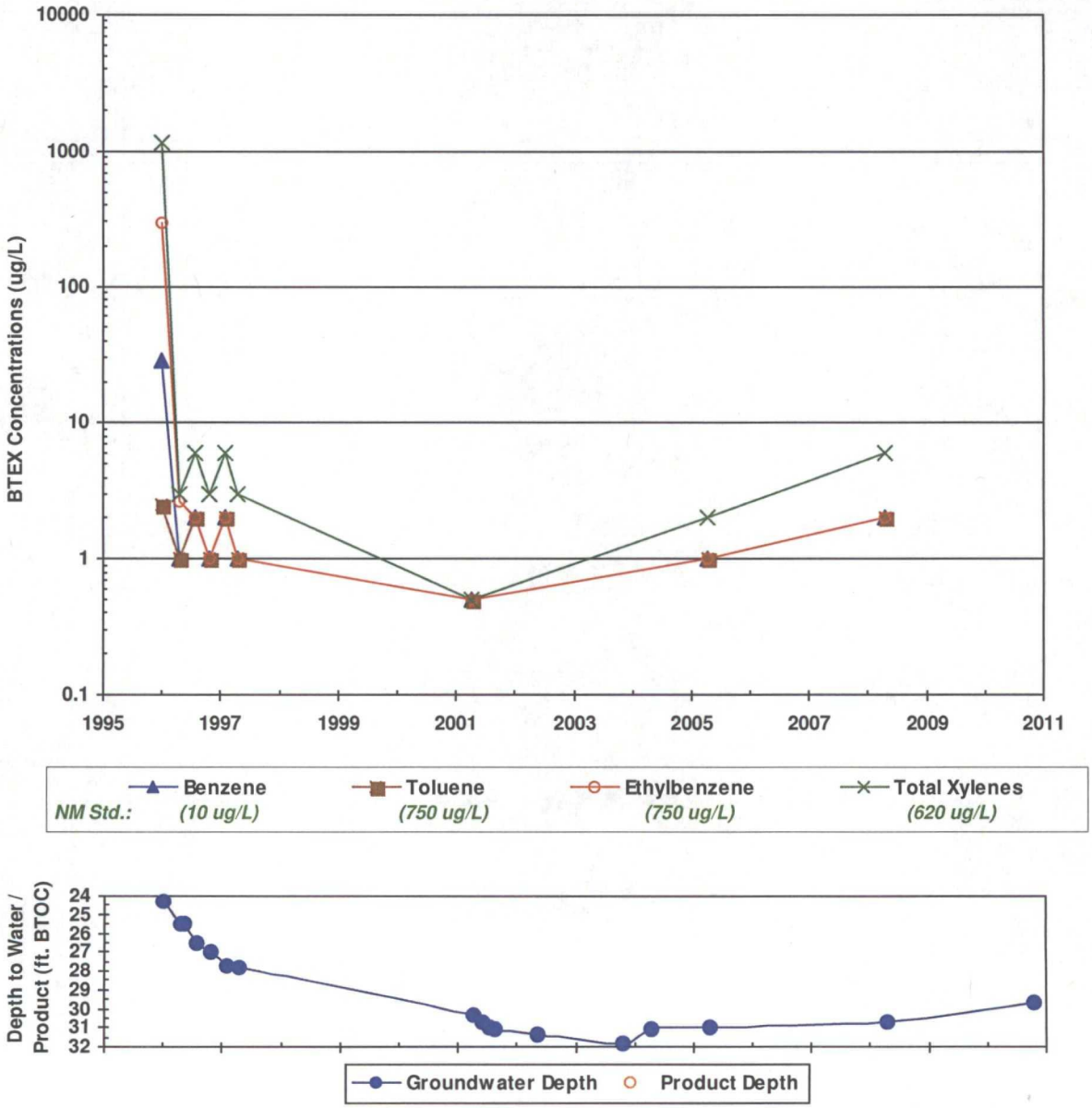


FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
FIELDS A#7A (METER #89961)
MW03

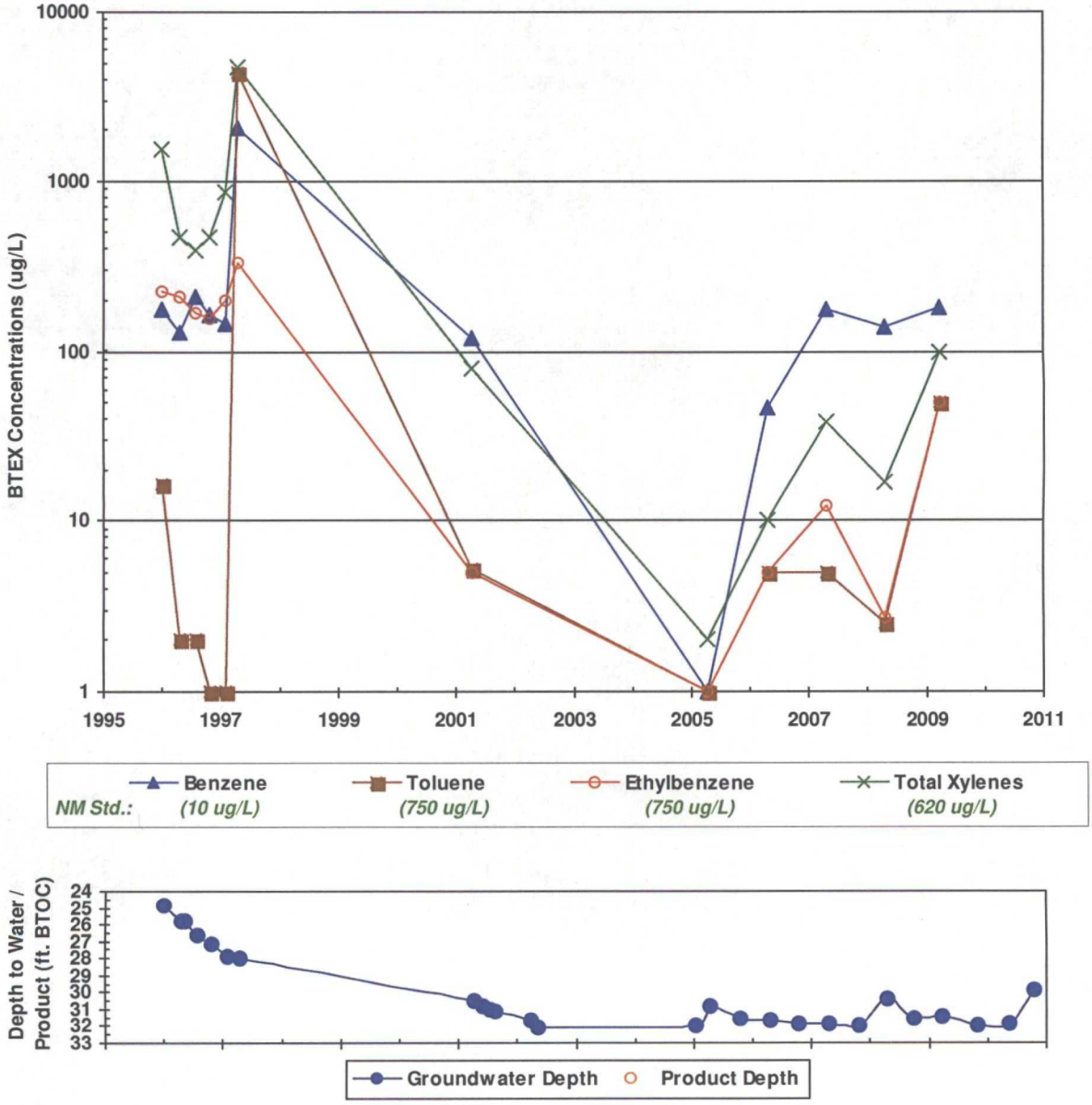
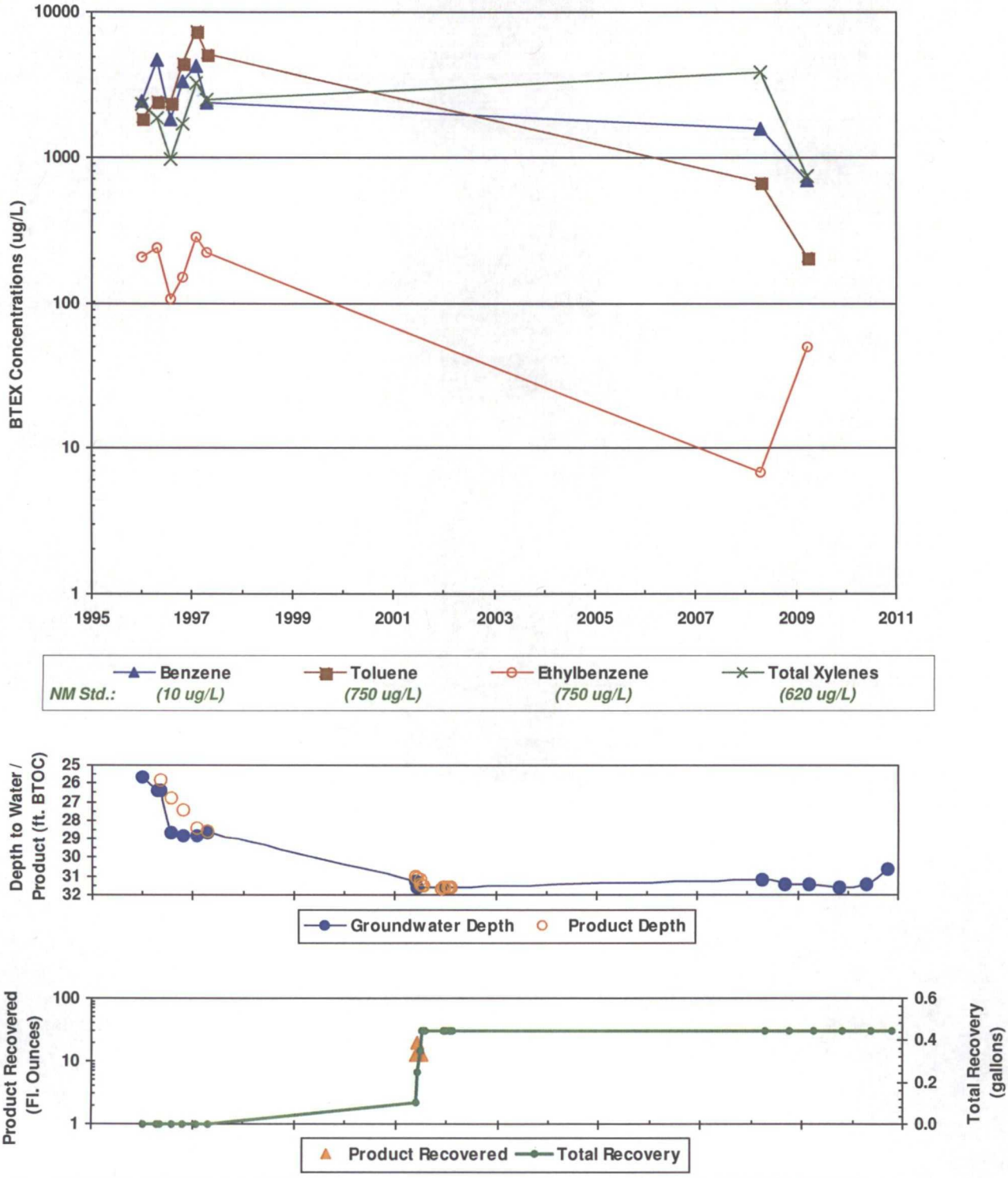


FIGURE 5
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
FIELDS A#7A (METER #89961)
MW04



*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	Corrected GW Elevation (ft AMSL)
NMWQCC GW Std.:		10	750	750	620		
MW01	8/9/1995	**1950**	**1946**	115	**1361**	22.50	6064.08
MW01	1/3/1996	**3150**	**5280**	361	**3460**	23.28	6063.30
MW01	4/18/1996	**1300**	**2140**	119	**1240**	24.20	6062.38
MW01	7/29/1996	**503**	**804**	28	363	25.07	6061.55
MW01	10/21/1996	**843**	**1300**	26	422	25.45	6061.19
MW01	1/30/1997	**1300**	**2200**	76.8	**966**	26.83	6059.96
MW01	4/21/1997	**951**	**1920**	73	**894**	26.47	6060.13
MW01	1/26/2004	**121**	54	15.8	216	31.02	6055.56
MW01	4/21/2004	**116**	58.1	29.3	83.3	30.67	6055.91
MW01	4/18/2005	**108**	29.0	14.2	274	30.19	6056.39
MW01	10/22/2005	**180**	69.2	6.3	154	30.74	6055.84
MW01	4/25/2006	**83.7**	23.8	2.1J	82.5	31.41	6055.17
MW01	10/24/2006	**254**	108	4.0	169	31.39	6055.19
MW01	4/24/2007	**106**	37.2	3.3	112	31.66	6054.92
MW01	4/21/2008	**246**	38.3	1.6J	81.3	30.31	6056.27
MW01	4/7/2009	**25.5**	11.0	0.60J	21.5	31.24	6055.34
MW01	5/24/2010	**100**	43.8	1.1J	56.9	31.33	6055.25
MW02	1/3/1996	**28.8**	<2.5	297	**1169**	24.27	6060.57
MW02	4/18/1996	<1.0	<1.0	2.64	<3.0	25.53	6059.31
MW02	7/29/1996	<2.0	<2.0	<2.0	<6.0	26.48	6058.36
MW02	10/21/1996	<1.0	<1.0	<1.0	<3.0	26.96	6057.88
MW02	1/30/1997	<2.0	<2.0	<2.0	<6.0	27.73	6057.11
MW02	4/21/1997	<1.0	<1.0	<1.0	<3.0	27.77	6057.07
MW02	4/13/2001	<0.5	<0.5	<0.5	<0.5	30.33	6054.51
MW02	4/18/2005	<1.0	<1.0	<1.0	<2.0	30.98	6053.86
MW02	4/21/2008	<2.0	<2.0	<2.0	<6.0	30.66	6054.18
MW03	1/3/1996	**176**	16.4	225	**1550**	24.88	6059.78
MW03	4/18/1996	**129**	<2.0	212	463	25.75	6058.91
MW03	7/29/1996	**212**	<2.0	167	393	26.64	6058.02
MW03	10/21/1996	**165**	<1.0	157	467	27.16	6057.50
MW03	1/30/1997	**144**	<1.0	198	**851**	27.92	6056.74
MW03	4/21/1997	**2070**	**4340**	332	**4730**	28.00	6056.66
MW03	4/13/2001	**120**	5.2	<5.0	80	30.48	6054.18
MW03	4/18/2005	<1.0	<1.0	<1.0	<2.0	30.77	6053.89

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	Corrected GW Elevation (ft AMSL)
NMWQCC GW Std.:		**10**	**750**	**750**	**620**		
MW03	4/25/2006	**46.4**	<5.0	<5.0	<10	31.61	6053.05
MW03	4/24/2007	**179**	<5.0	12.3	37.9	31.90	6052.76
MW03	4/21/2008	**140**	2.5	2.7	16.9	30.40	6054.26
MW03	4/7/2009	**182**	<50	<50	<100	31.40	6053.26
MW04	1/3/1996	**2470**	**1880**	206	**2350**	25.69	6059.51
MW04	4/18/1996	**4760**	**2460**	235	**1880**	26.42	6058.78
MW04	7/29/1996	**1830**	**2380**	106	**967**	28.65	6058.01
MW04	10/21/1996	**3320**	**4520**	149	**1680**	28.84	6057.47
MW04	1/30/1997	**4320**	**7420**	280	**3250**	28.85	6056.69
MW04	4/21/1997	**2410**	**5170**	219	**2530**	28.68	6056.60
MW04	4/21/2008	**1580**	679	6.8J	**3900**	31.22	6053.98
MW04	4/7/2009	**695**	206	<50	**745**	31.40	6053.80

Notes:

Results shown in bold typeface exceed their respective New Mexico Water Quality Control Commission standards.

"J" = result is qualified as estimated. See laboratory report and/or supplemental data validation report for further detail.

"<" = analyte was not detected at the indicated reporting limit.

Static groundwater elevations have been corrected for product thickness where applicable. Specific gravity of 0.8 used.

TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL
FIELDS A#7A (METER #89961)

Monitor Well	Removal Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Removal (gallons)	Corrected GW Elevation (ft AMSL)
MW01	7/29/1996	25.02	25.07	0.05	--	2.85	6061.55
MW01	10/21/1996	25.38	25.45	0.07	--	2.85	6061.19
MW01	1/30/1997	26.57	26.83	0.26	--	2.85	6059.96
MW01	4/21/1997	26.44	26.47	0.03	--	2.85	6060.13
MW01	1/30/2001	28.74	30.08	1.34	1.25	4.10	6057.57
MW01	2/8/2001	28.65	29.85	1.20	1.00	5.10	6057.69
MW01	2/16/2001	29.08	30.20	1.12	1.00	6.10	6057.28
MW01	2/17/2001	29.08	29.66	0.58	1.00	7.10	6057.38
MW01	2/26/2001	29.39	29.54	0.15	1.00	8.10	6057.16
MW01	3/5/2001	29.25	29.28	0.03	0.50	8.60	6057.32
MW01	4/11/2001	--	29.33	0.00	0.10	8.70	6057.25
MW01	6/5/2001	29.34	29.46	0.12	1.00	9.70	6057.22
MW01	6/15/2001	29.57	29.65	0.08	--	9.70	6056.99
MW01	7/6/2001	--	30.00	0.00	0.50	10.20	6056.58
MW01	7/13/2001	--	29.96	0.00	0.05	10.25	6056.62
MW01	10/10/2001	30.32	30.33	0.01	0.02	10.27	6056.26
MW01	12/4/2001	--	30.51	0.00	0.02	10.29	6056.07
MW01	12/13/2001	29.42	29.43	0.01	--	10.29	6057.16
MW01	12/21/2001	30.39	30.40	0.01	--	10.29	6056.19
MW01	1/7/2002	30.58	30.59	0.01	--	10.29	6056.00
MW01	1/23/2002	30.40	30.41	0.01	0.01	10.30	6056.18
MW01	1/31/2002	30.94	30.95	0.01	--	10.30	6055.64
MW01	2/7/2002	31.11	31.12	0.01	--	10.30	6055.47
MW01	2/14/2002	31.17	31.18	0.01	--	10.30	6055.41
MW01	2/20/2002	31.14	31.15	0.01	--	10.30	6055.44
MW01	3/21/2002	30.78	30.80	0.02	--	10.30	6055.80
MW01	3/28/2002	--	30.92	0.00	0.01	10.31	6055.66
MW01	10/1/2002	--	31.77	0.00	0.02	10.33	6054.81
MW01	4/27/2003	31.06	31.07	0.01	0.02	10.35	6055.52
MW04	5/8/1996	25.83	26.42	0.59	--	0.00	6059.25
MW04	7/29/1996	26.82	28.65	1.83	--	0.00	6058.01
MW04	10/21/1996	27.45	28.84	1.39	--	0.00	6057.47
MW04	1/30/1997	28.43	28.85	0.42	--	0.00	6056.69
MW04	4/21/1997	28.58	28.68	0.10	--	0.00	6056.60

TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL
FIELDS A#7A (METER #89961)

Monitor Well	Removal Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Removal (gallons)	Corrected GW Elevation (ft AMSL)
MW04	6/5/2001	31.01	31.25	0.24	0.10	0.10	6054.14
MW04	6/15/2001	31.12	31.56	0.44	0.15	0.25	6053.99
MW04	7/6/2001	31.20	NA	NA	0.10	0.35	NA
MW04	7/13/2001	31.44	NA	NA	0.10	0.45	NA
MW04	7/20/2001	31.51	NA	NA	--	0.45	NA
MW04	8/1/2001	31.54	NA	NA	--	0.45	NA
MW04	12/13/2001	31.65	NA	NA	--	0.45	NA
MW04	12/21/2001	31.61	NA	NA	--	0.45	NA
MW04	1/7/2002	31.61	NA	NA	--	0.45	NA
MW04	1/23/2002	31.62	NA	NA	--	0.45	NA
MW04	1/31/2002	31.61	NA	NA	--	0.45	NA
MW04	2/7/2002	31.60	NA	NA	--	0.45	NA
MW04	2/14/2002	31.62	NA	NA	--	0.45	NA
MW04	2/20/2002	31.62	NA	NA	--	0.45	NA

Notes:

"--" indicates either that product was not measurably detected or that product was not recovered.

"NA" indicates that the respective data point is not available.

Groundwater elevations may not be static due to removal of equipment. Corrections for product thickness utilize SG of 0.8.